



SHAKER SIMPLICITY

This solid cherry chest of drawers is as much at home in the dining room as it is in the bedroom.

BY NEAL BARRETT

Build this elegant chest, styled in the functional Shaker tradition, to complement almost any room in your home. Each of its six drawers measures nearly 3 ft. wide by 7 in. high. They'll hold a storehouse of table linen, dining accessories, blankets or clothing.

If you have a surface planer and jointer, you can buy rough 4/4 lumber, surface it yourself to the required thicknesses, and true one edge of each board. Otherwise, you can buy dimensioned lumber or have the lumberyard mill the wood to your specifications.

Cut all the required boards to rough length, then the boards that will be edge-joined for the case sides, partition, top, bottom and for the drawer faces. Match the color and grain pattern of adjoining boards, making certain that you choose your best pieces for the top and drawer faces.

To begin construction, edge-glue the boards into panels for each of the case parts. Use 1/4-in.-dia. × 1-in. dowels, spaced 6 to 8 in. apart along the mating edges to help align the boards. Clamp each panel, placing the clamps alternately above and below the work to evenly distribute clamping pressure and to keep the panels flat.

Remove the squeezed-out glue with a sharp chisel before it hardens completely. After the glue dries, sand the surfaces smooth using a belt sander and 120-grit sanding belt. Then cut all

the panels to finished size.

Cut dados on the inside surface of the sides to receive the bottom. Use a router with an edge guide, as shown in the photo at right, and a 3/4-in.-dia. straight bit. Use the same bit to cut the dado in the case bottom that receives the center partition. Clamp a straightedge across the case bottom for a guide. Reset the edge guide, and cut the rabbets on the back edge of the case sides to receive the back.

Cut recesses in the top rear corner of the case sides to receive the back rail. Use a sharp chisel. Also, notch the top rear corner of the center partition.

The face frame is attached to the case using 1/4 × 3/8-in. hardwood splines to align

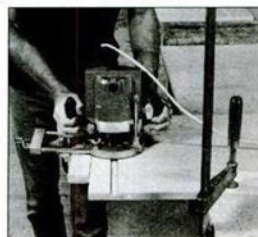
and reinforce the joints. Cut grooves for the splines 3/8 in. deep, centered in the front edges of the case sides, partition and bottom. Clamp the pieces securely to a workbench while making the cuts so you can guide the router with both hands. Use a 1/4-in. slotting cutter with a ball-bearing pilot.

Assembling the case

Begin the case assembly by gluing and clamping the center partition into the dado in the case bottom. Reinforce this joint with four 1 1/2-in. No. 8 f.h. screws driven through the bottom into the partition. Next, glue the case sides to the bottom, and the back rail to the sides and the partition. Apply glue generously at each joint, and clamp. Before the



1 Edge-join boards for case. Alternate clamps above and below to prevent bowing.



2 Cut dados in case sides with 3/4-in.-dia. straight bit. Use edge guide on router base.



3 Reset router bit depth and edge guide for rabbets in the sides to house the case back.

Black/white photos: Neal Barrett
Technical art: Eugene Thompson
Color photo: Harry Hartman
Photo stylist: Gabe Herrick
Tableware: Courtesy of Fortunoff,
681 Fifth Ave., New York, NY 10022

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glue sets, check the assembly with a framing square. Readjust the clamps if necessary to square the case.

Building the face frame

While the glue dries, cut the face frame parts to size and mark the mortise locations. Clamp a fence to the drill press table to center the mortises in the frame pieces, then bore overlapping $\frac{1}{4}$ -in.-dia. \times $\frac{1}{16}$ -in.-deep holes to form each mortise. Use a sharp chisel to square the ends and smooth the sides of the mortises.

Use a dado blade in the table saw to cut the tenons on the rails and the center mullion. First, cut the tenons to proper thickness, then readjust the blade height to cut the shoulders. Note that the top shoulder of the top rail is $\frac{1}{4}$ in., and the bottom shoulder of the bottom rail is $\frac{1}{2}$ in. All other tenon shoulders are $\frac{1}{8}$ in. Test-cut your first tenon on a piece of scrap to ensure a snug fit in the mortises.

Glue both mortises and tenons and assemble the frame on a flat surface. Use long bar clamps to bring the joints tight. Compare the frame's two diagonal measurements to check for squareness. Readjust the clamps if necessary and let the glue dry.

While the frame sets, cut the rear support leg. Bore pilot holes through the case bottom and mount the rear leg with glue and screws.

After the frame is thoroughly dry,

clamp it face down to a worktable and cut $\frac{3}{8}$ -in.-deep spline grooves, as shown in the drawing. Use a router with an edge guide, and a $\frac{1}{4}$ -in.-dia. straight bit. Note that the groove in the bottom rail is stopped at both ends.

Cut the $\frac{1}{4} \times \frac{5}{8}$ -in. splines from scrap hardwood. The splines should slide easily into the grooves, but without play. Test-fit the face frame to the case with splines in place to be sure all grooves align correctly. Glue all mating surfaces and grooves, and assemble the face frame to the case. Clamp, then check that the frame is tight against the case at all adjoining points.

Rip the $\frac{1}{2}$ -in.-thick stock to width for the base molding. Use a $\frac{3}{8}$ -in.-rad. cove bit in the router table to cut the cove in the top edge of the molding stock. Miter the two front corners of the molding. Then bore pilot holes for 1-in. brads and attach the molding to the case with glue and brads. Use a fine-point nailset to drive the brads below the wood surface. Fill the holes with cherry-colored wood filler or cherry sawdust mixed with clear lacquer.

Drawer runners

Cut the runners and runner supports from hardwood stock. Join a runner to each support with glue and brads. Bore clearance holes in each runner assembly for screws to attach the runner to the case. Make the front clearance hole round. The two rear clearance holes are elongated slots. These slots allow seasonal wood movement in the case sides,

unrestricted by the screws, and will prevent the sides from cracking. To cut the slots, bore two adjacent holes and remove the waste between them with a sharp chisel. Mark the runner locations on the case sides. Then attach them with flat washers and $1\frac{1}{4}$ -in. rh wood screws. Do not use glue.

Cut the case back from $\frac{1}{4}$ -in.-thick

(Please turn to page 111)

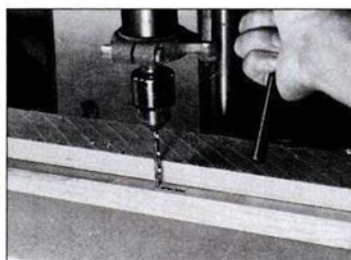
MATERIALS LIST— CHEST OF DRAWERS

Key No.	Size and description (use)
A	2 $\frac{3}{4} \times 19\frac{1}{4} \times 28\frac{3}{4}$ cherry (case side)
B	1 $\frac{3}{4} \times 19 \times 26\frac{1}{2}$ cherry (case partition)
C	1 $\frac{3}{4} \times 19 \times 71$ cherry (case bottom)
D	1 $\frac{1}{4} \times 28\frac{3}{4} \times 71\frac{1}{2}$ plywood (case back)
E	1 $\frac{3}{4} \times 1\frac{1}{2} \times 71\frac{1}{2}$ cherry (back rail)
F	2 $\frac{3}{4} \times 1\frac{1}{2} \times 28\frac{3}{4}$ cherry (frame stile)
G	1 $\frac{3}{4} \times 1\frac{1}{2} \times 25\frac{3}{4}$ cherry (frame mullion)
H	4 $\frac{3}{4} \times 1\frac{1}{2} \times 35\frac{3}{4}$ cherry (frame rail)
I	1 $\frac{3}{4} \times 1\frac{1}{2} \times 71$ cherry (top rail)
J	1 $\frac{3}{4} \times 3\frac{1}{2} \times 71$ cherry (bottom rail)
K	1 $\frac{3}{4} \times 2\frac{1}{2} \times 20$ hardwood (back leg)
L	1 $\frac{1}{2} \times 2\frac{1}{2} \times 73\frac{1}{2}$ cherry (base molding)
M	2 $\frac{1}{2} \times 2\frac{1}{2} \times 20\frac{1}{2}$ cherry (base molding)
N	12 $\frac{3}{8} \times 2 \times 19$ hardwood (drawer runner support)
O	12 $\frac{3}{4} \times \frac{3}{4} \times 19$ hardwood (drawer runner)
P	1 $\frac{3}{4} \times 21 \times 73$ cherry (case top)
Q	14 $\frac{1}{4} \times \frac{1}{2}$ hardwood (spline)
R	6 $\frac{1}{4} \times 17\frac{1}{2} \times 33\frac{9}{16}$ maple plywood (drawer bottom)
S	12 $\frac{1}{2} \times 6\frac{15}{16} \times 18$ maple (drawer side)
T	12 $\frac{1}{2} \times 6\frac{15}{16} \times 34\frac{1}{16}$ maple (drawer front/back)
U	6 $\frac{3}{4} \times 7\frac{1}{4} \times 34\frac{15}{16}$ cherry (drawer face)
V	12 $1\frac{1}{2}$ maple knob, Amerock BP-813-WD
W	12 $\frac{1}{4} \times \frac{3}{4}$ -dia. tabletop fastener
X	24 $\frac{3}{8}$ " No. 8 screw
Y	8 $1\frac{1}{2}$ " No. 8 screw
Z	36 $1\frac{1}{4}$ " No. 8 rh screw, flat washer
AA	24 1" No. 10 rh screw
BB	30 $\frac{3}{8}$ " No. 5 brass screw
CC	1" brads
Misc.	Carpenter's glue, 120-220- and 600-grit abrasive paper, $\frac{1}{8}$ -dia. \times 1" dowels (as required), Watco natural oil finish.

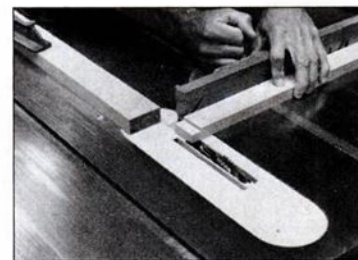
*As required.



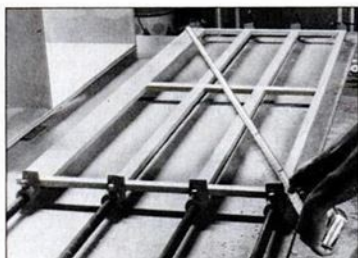
4 Rout grooves for splines in case edges using a $\frac{1}{4}$ -in. slotting cutter. Clamp workpiece to a bench before routing.



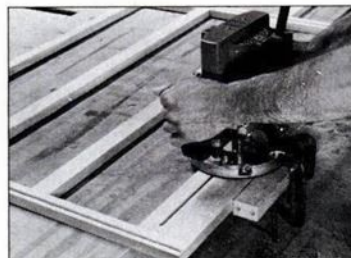
5 Mark mortises, then bore overlapping $\frac{1}{4}$ -in.-dia. holes. Square with a chisel. Fence on drill press positions work.



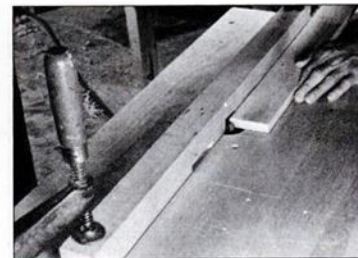
6 Cut $\frac{1}{4}$ -in.-wide tenons with dado blade in a table saw. Clamp a stop block to the table to make identical repeat cuts.



7 Glue and assemble face frame, and clamp. Measure both diagonals to check for square, and shift clamps if necessary.

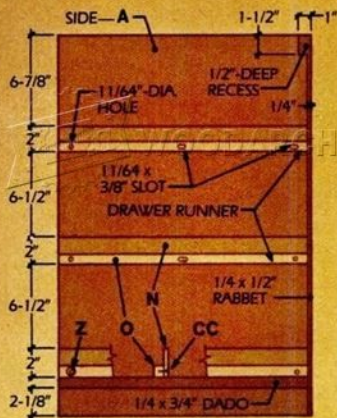


8 Cut spline grooves in back side of face frame using $\frac{1}{4}$ -in.-dia. straight bit. Stop groove in bottom rail 2 in. from edge.

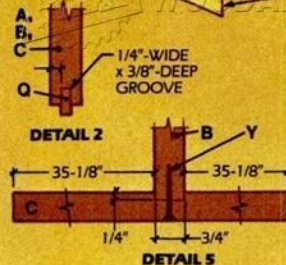


9 Form top edge for the base molding on $\frac{1}{2}$ -in.-thick stock using a $\frac{3}{8}$ -in.-dia. cove bit on a router table.

20" DEEP x 29-1/2" HIGH x 72" LONG



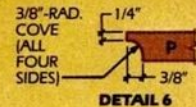
SIDE AND RUNNER DETAILS



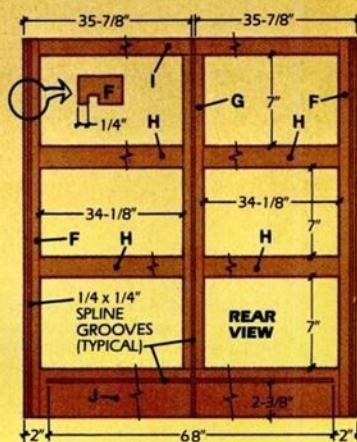
DETAIL 1

DETAIL 2

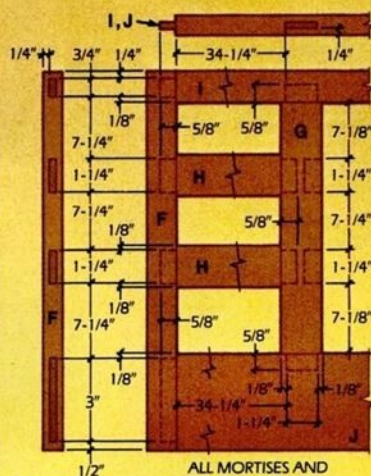
DETAIL 3



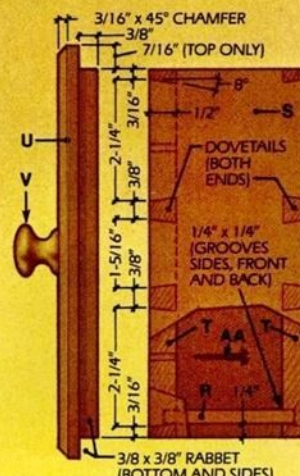
DETAIL 6



FACE FRAME DETAILS



ALL MORTISES AND
TENONS ARE 1/4"
WIDE x 5/8" DEEP



DRAWER DETAILS

HAMMERS

(Continued from page 99)

dle of this 16-oz. hammer (\$13) features a dimpled, antislip surface. The striking face and curved claw are hardened individually to ensure strength and durability. It's also available in a 20-oz. model. Contact Sandvik, Box 1220, Scranton, PA 18501.

8. Ball-peen hammer—Featuring a hardened head, the ball-peen hammer is used for striking cold chisels and punches and for general metalwork. The ball-shaped peen was originally used to mushroom rivet heads. They are commonly available in sizes ranging from 8 to 32 oz. The 24-oz. model shown costs about \$19. Contact Estwing, 2647 Eighth St., Rockford, IL 61101.

9. Toolmaker's hammer—Here's an excellent example of just how specialized a hammer can be. This 4-oz. miniature ball-peen hammer has a magnifying lens built into its head. Use the lens to check centerline and intersection punch marks for accuracy. The chrome-plated tool costs about \$32. Contact Starrett Co., Consumer Products, 121 Crescent St., Athol, MA 01331.

10. Rip hammer—Great for rough carpentry, this 22-oz. hammer features a straight ripping claw, a fiberglass handle and a rubber handgrip. Many workers prefer fiberglass-handled tools because they are virtually unbreakable and are more shock absorbent than steel-handled tools. The hammer shown costs \$20.99 postpaid from U.S. General, 100 Commercial St., Plainview, NY 11803.

11. and 12. Dead-blow hammers—Use dead-blow hammers to strike blows without damaging the work's surface. The tools' hollow heads are partially filled with small metal shot, which reduces rebounding. Durable urethane completely encloses a solid steel handle that's welded to a cylindrical steel head. Dead-blow hammers are available in five styles ranging in size from 8 oz. to 14 lb. Shown are the 10-lb. (No. 11; \$70) and the 14-oz. (No. 12; \$18) hammers. Contact Stanley, 600 Myrtle St., New Britain, CT 06050.

13. Frontiersman's tool—This rugged 24-oz. tool is more than just a hammer, it's also a crowbar, nail puller and hatchet. You'll find this tool particularly useful on camping trips and for opening wooden crates. It's \$13.90 postpaid from Leichtung, 4944 Commerce Parkway, Cleveland, OH 44128.

14. Leather-grip claw hammer—Designed for finish carpentry and other light-duty nailing jobs, this 12-oz. (\$19) curved-claw hammer features an attractive, comfortable leather handgrip. The grip is a lamination of leather washers pressed and riveted to the

solid steel handle. Contact Estwing, 2647 Eighth St., Rockford, IL 61101.

15. Upholsterer's hammer—The magnetic face of this 7-oz. hammer (\$20) makes it easy to start upholstery tacks and small nails. Use the nonmagnetic face to continue driving the tack. The curved, narrow head fits in restricted spaces. Contact Stanley, 600 Myrtle St., New Britain, CT 06050.

16. Brasshead hammer—Use this 16-oz. solid brass, wood-handled hammer during metalworking to avoid marring the work's surface. The tool has a 1-in.-dia. x 2½-in. head and is about 10 in. long. It's available for \$14.65 postpaid from Garrett Wade, 161 Ave. of the Americas, New York, NY 10013.

17. Claw hammer—Here's a fine example of a standard carpenter's nailing hammer. This 16-oz., hickory-handled hammer (\$18) is designed for general nailing. Its curved claw has two sharp, beveled edges for drawing out stubborn nails. Contact Stanley, 600 Myrtle St., New Britain, CT 06050.

18. Supertough hammer—If you're tough on tools, try this virtually indestructible rip hammer from Last Time Tool Co., Suite 415, 148 International Blvd., Atlanta, GA 30303. The handle is made of a super-resilient, shock-absorbent copolymer resin. The 14½-oz. hammer is available with a rip or curved claw for about \$18.

19. Plastic-tipped hammer—This 12-oz. steel-core hammer (\$12) features two replaceable plastic faces. One side has a hard plastic face, the opposite side has a soft face. Use the hammer for striking, without marring, various materials including wood, metals, plastic and stone. Contact Sears, Sears Tower, Dept. 703-PM, Chicago, IL 60684.

20. Japanese hammer—The square steel head of this hammer has one flat striking face opposite a slightly crowned face. Use this tool for both woodworking and metalworking. The 8-oz. hammer is \$12.55 postpaid from Garrett Wade, 161 Ave. of the Americas, New York, NY 10013.

21. Lignostone mallet—Use a wooden mallet to strike wood and plastic handled chisels and gouges, to install wood dowel pins and to assemble wood parts. This 25-oz. mallet is made of laminated beech veneers that is claimed to be five times harder than solid beech and twice as elastic. It's \$15.90 postpaid from the Fine Tool Shops, 20 Backus Ave., Danbury, CT 06810.

22. Drywall hammer—Designed for installing drywall, this 12-oz. hammer has a milled striking face opposite a hatchet blade. Use the hatchet blade to score the drywall to permit snapping it along the scored line of cut. It's about \$20 at most Sears stores. Contact Sears, Sears Tower, Dept. 703-PM, Chicago, IL 60684. **PM**